a first sensor module, having a plurality of electrical rotational rate sensors, for providing a plurality of rotational rate signals;

a second sensor module, having a plurality of electrical compensation sensors, for providing a plurality of compensation signals;

a microcontroller module, coupled to the first and second sensor modules, for processing the rotational rate signals and the compensation signals and generating attitude information, directional information, and turn coordinate information; and

a display, coupled to the microcontroller module, for displaying the attitude information, the directional information, and the turn coordinate information simultaneously.

16. A solid-state gyro, comprising:

a substrate having a proof-mass;

a membrane, the proof-mass being suspended on the membrane;

a single common electrode layer being disposed on the membrane;

a single sheet of piezoelectric material being disposed on the single common electrode layer; and

a plurality of electrodes being disposed on the single sheet of piezoelectric material, rotational rate signals being outputted through the electrodes, wherein each of the electrodes, the piezoelectric material, and the single common electrode layer form a plurality of piezoelectric elements.

20. The gyro of claim 16, wherein the piezoelectric elements are arranged and configured in an oval shape with a plurality of pairs of piezoelectric elements, one element in a

pair is disposed on an inner ring of the oval shape, and the other element in the pair is disposed on an outer ring of the oval shape.

21. The gyro of claim 20, wherein the two elements of the pair have equal area.

22. The gyro of claim 20, wherein each pair of piezoelectric elements has a mirror image pair of piezoelectric elements disposed on opposite side of an axis passing through a center of the proof-mass.

37. A solid-state device having a plurality of sensors on a single multi-sensor chip, each sensor comprising:

a substrate having a proof-mass;

a membrane, the proof-mass being suspended on the membrane;

a single common electrode layer being disposed on the membrane;

a single sheet of piezoelectric material being disposed on the single common electrode layer;

a plurality of electrodes being disposed on the single sheet of piezoelectric material, sensor signals being outputted through the electrodes, wherein each of the electrodes, the piezoelectric material, and the single common electrode layer form a plurality of piezoelectric elements; and

wherein the plurality of sensors share the substrate.

38. The device of claim 37, wherein the sensors include a solid-state gyro and a compensation sensor with shared lower electrode layer and shared piezoelectric layer.

39. The device of claim 37, wherein the sensors include a solid-state gyro and a compensation sensor with separate lower electrode layer and separate piezoelectric layer.

40. The device of claim 37, further comprising a gyroscopic navigation system capable of displaying gyroscopic navigational information on a display.

41. A solid-state gyro with a thin-film of piezoelectric material forming a plurality of piezoelectric elements, wherein the piezoelectric elements output rotational rate signals.

42. A method of displaying gyroscopic navigational information, comprising the steps of:

providing at least first and second sensors on a semiconductor chip, each of the sensors including a solid-state gyro with a thin-film of piezoelectric material;

providing a rotational rate signal by the first sensor;

providing a compensation signal by the second sensor;

processing the rotational rate signal and the compensation signal; and

generating the gyroscopic navigational information.

43. The device of claim 37, wherein the sensors include a plurality of solid-state gyros with shared lower electrode layer and shared piezoelectric layer.

44. The device of claim 37, wherein the sensors include a plurality of solid-state gyros with separate lower electrode layer and separate piezoelectric layer.